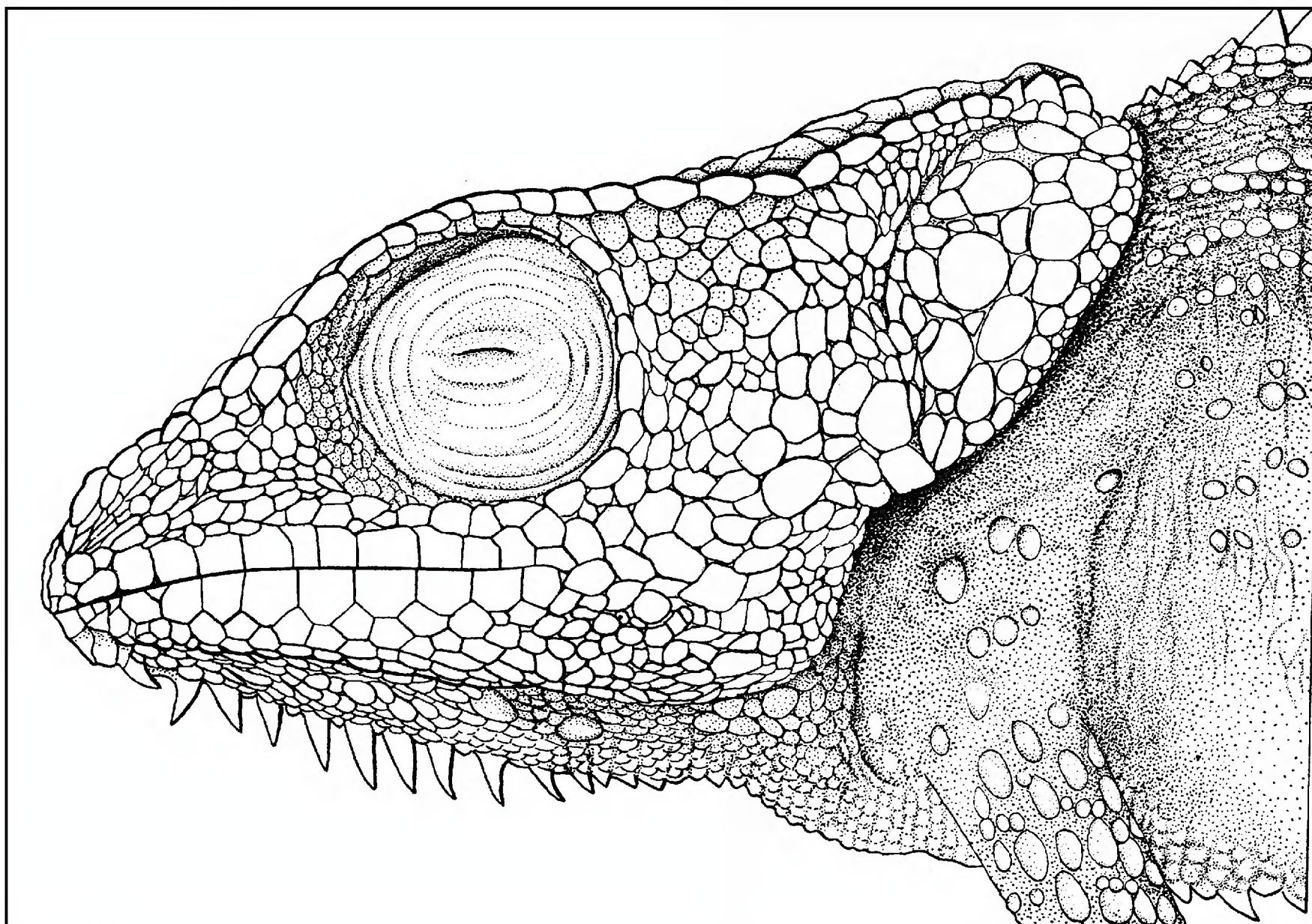

BULLETIN

of the

Chicago Herpetological Society



Volume 40, Number 5
May 2005



BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
Volume 40, Number 5
May 2005

Replacing Fluorescent Lamps	William H. Gehrmann and Gary W. Ferguson	85
Stomach Contents of House Geckos (<i>Hemidactylus frenatus</i>) from Hawaii, Hawaii	Dreux J. Watermolen	87
Herpetological Devices on Medals of the U.S. Mint	David Chiszar and Hobart M. Smith	91
Herping in Australia—Field Notes and More. Part 1: Sydney’s Inner Suburbs	Raymond Hoser	94
HerPET-POURRI	Ellin Beltz	101
Unofficial Minutes of the CHS Board Meeting, April 15, 2005		103
Advertisements		104

Cover: Female Malthe’s chameleon, *Calumma malthe*. Drawing from “Faune de Madagascar XXXIII — Reptiles. Sauriens Chamaeleonidae, le genre *Chamaeleo*” by E.-R. Brygoo, 1971.

STAFF

Editor: Michael A. Dloogatch — madadder0@aol.com
Advertising Manager: Ralph Shepstone

2005 CHS Board of Directors

Linda Malawy, President
Jim Hoffman, Treasurer
Melanie Aspan, Recording Secretary
Deb Krohn, Corresponding Secretary
Mike Dloogatch, Publications Secretary
Ron Humbert, Sergeant-at-Arms
Sean Bober, Member-at-Large
Betsy Davis, Member-at-Large
Steve Sullivan, Member-at-Large
Jenny Vollman, Member-at-Large

The Chicago Herpetological Society is a nonprofit organization incorporated under the laws of the state of Illinois. Its purposes are education, conservation and the advancement of herpetology. Meetings are announced in this publication, and are normally held at 7:30 P.M., the last Wednesday of each month.

Membership in the CHS includes a subscription to the monthly *Bulletin*. Annual dues are: Individual Membership, \$25.00; Family Membership, \$28.00; Sustaining Membership, \$50.00; Contributing Membership, \$100.00; Institutional Membership, \$38.00. Remittance must be made in U.S. funds. Subscribers outside the U.S. must add \$12.00 for postage. Send membership dues or address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago, IL 60614.

Manuscripts published in the *Bulletin of the Chicago Herpetological Society* are not peer reviewed. Manuscripts should be submitted, if possible, on IBM PC-compatible or Macintosh format diskettes. Alternatively, manuscripts may be submitted in duplicate, typewritten and double spaced. Manuscripts and letters concerning editorial business should be sent to: Chicago Herpetological Society, Publications Secretary, 2430 N. Cannon Drive, Chicago, IL 60614. **Back issues** are limited but are available from the Publications Secretary for \$2.50 per issue postpaid. **Visit the CHS home page at** < <http://www.Chicagoherp.org> > .

The Bulletin of the Chicago Herpetological Society (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.

Replacing Fluorescent Lamps

William H. Gehrmann and Gary W. Ferguson
Biology Department
Texas Christian University
2800 S. University Drive
Fort Worth, TX 76129

We wish to consider recommendations for the frequency of changing fluorescent reptile lamps. A common period suggested for change is following six months of use. We do not know where or when this originated although it is generally disseminated by word of mouth and can occasionally be found in print (for example, see Beltz, 1989). In this paper we consider the frequency of change with special reference to the irradiance of UVB, the component of lamp output associated with the synthesis of vitamin D₃ in the skin. These considerations also have practical implications with respect to the cost of lamp replacement.

If we know the irradiance of UVB (as $\mu\text{W}/\text{cm}^2$) for a type of lamp, the rate of depreciation of UVB and the minimum level required for the health of a species, we can easily calculate how long the lamp will have to be used to bring it close to the minimum irradiance. The greatest problem with this prescription is the lack of data regarding the range of tolerance and optimal amount of UVB for most reptile species, but perhaps we can work around that in some way below.

In the mid 1980s Joe Laszlo, then at the San Antonio Zoo, gave one of us (WHG) a data sheet from the Duro-Test Corp. for their Vita-Lite lamp, which was, in a very real sense, the forerunner of current full-spectrum reptile lamps. The data sheet related burning time to the percent depreciation of UVA, UVB and visible light (Table 1). We calculated the regression equation from data between 1000 and 9000 burn-hrs so that we could estimate the percent depreciation for UVB for any value of burn time:

$\% \text{ baseline UVB remaining} = -0.0017 \times \text{burn-hrs} + 86.267$

From Table 1 and the regression formula, we were able to generate a table showing depreciation in quarterly intervals up to one year (Table 2). We will return to this table when we

Table 1. Power depreciation data compiled by Duro-Test Corp. for the Vita-Lite lamp. The data were derived from eight 20W/T12 lamps.

Burn time (hrs)	Percent of 100-hour values		
	Irradiance		Illuminance (visible light)
	UVB*	UVA*	
100	100	100	100
500	91	92	98
1000	85	87	97
2000	83	87	97
3000	82	86	96
4000	79	83	94
5000	77	82	91
9000	72	75	83

* UVB: 290–320 nm; UVA: 320–380 nm

Table 2. Percent depreciation as a function of burning time. Assumes lamp is burned for 12 hours per day.

Burn time (mos)	Burn time (hrs)	Baseline remaining (%)	Decrease relative to baseline (%)	Decrease relative to last 3-month period (%)
3	1092	84.4	15.6	15.6
6	2196	82.5	17.5	1.9
9	3288	80.7	19.3	1.8
12	4380	78.8	21.2	1.9

attempt to biologically evaluate the decreases in UVB over time, especially the 4% depreciation between six and twelve months.

We wanted to verify that the Vita-Lite data were applicable to a modern-type reptile lamp. One of us (GWF) had three Zoo Med Laboratories, Inc. Reptisun UVB 310 lamps that had been used for 10 hrs per day for two years, which is 7300 burn-hrs. In addition, we had three other lamps from the same batch which had been unused; we burned these for 100 hrs to bring them to baseline level (note: this is a standard time to “break in” new lamps for measurements). We measured the UVB irradiances of the lamps under standard conditions using a Gigahertz-Optik radiometer and calculated the observed % decrease. We also exposed ampules of provitamin D₃ (7-dehydrocholesterol = DHC) to the lamps for one hour at 8.3 cm and calculated the % of DHC that had been converted to vitamin D₃ photoproducts (see Gehrmann et al., 2004a for more details of the methods). We then calculated the % decrease predicted by the Vita-Lite regression above. The results are shown in Table 3. We considered the observed decreases as reasonably similar to those predicted from the regression and concluded that the Vita-Lite data were applicable to the Reptisun UVB 310 lamps.

Jukka Lindgren (2004), in an article recently reprinted in the CHS *Bulletin*, reported irradiance data for a Reptisun 5.0 burned for 100 hrs and one burned for 10 months at 12 hrs per day = 3600 hrs. We calculated the % decrease expected from the regression equation and compared it to various measures of UVB described in the article (Table 3). We concluded that the observed values are close enough to the predicted decreases for us to be reasonably confident that the Vita-Lite data apply to the newer Reptisun 5.0 lamps. Because reptile-type fluorescent lamps are grossly similar in design and operation, we can infer that the depreciation tables apply to all of them even though the irradiances from lamps of different manufacturers varies (see Lindgren [2004] for examples of variation of UVB output).

Table 3. Predicted and observed power depreciation for two types of Zoo Med Lab, Inc., lamps. The Reptisun UVB 310 was burned for 7300 hrs. The Reptisun 5.0 was burned for 3600 hrs.

	% decrease predicted	% decrease observed	
		Irradiance	% product
Reptisun UVB 310	26	30	22
Reptisun 5.0:			
UVB* irradiance	20	20	—
UVB-1* irradiance	20	17	—
UVB-2* irradiance	20	19	—
D₃ Yield Index	20	16	—

* UVB: 280–319 nm; UVB-1: 280–304 nm; UVB-2: 305–319 nm

We can now consider evaluating the decreases in UVB depicted in Table 2. Specifically, we address the question: Should we replace lamps at six months or will doing it every year be acceptable? We see that there is a large reduction of about 16% that occurs during the first three months. Thereafter, the decrease is just short of 2% per quarter, for up to a year. So, between six and twelve months there is about a 4% reduction. From data in Gehrmann et al. (2004a, b) we calculated that moving a lamp 8 cm (3 in) closer to the enclosure substrate (from 38 cm (15 in) to 30 cm (12 in)) will increase the UVB irradiance by about 30%. Moving the lamp even 3 cm (about 1 in) closer to the substrate would more than compensate for the 4% burn-time depreciation.

If we know the range of tolerance for UVB, especially the lowest value to maintain health, we can evaluate the effect of depreciation. Unfortunately, these data are virtually unknown for most reptiles. However, Ferguson, et al. (2002) have published the ranges of UVB exposure 12 hr daily from hatching through reproduction and oviposition required for the production of viable eggs and subsequent hatching success in captive-raised female panther chameleons. For UVB irradi-

ance (as measured with a Spectronics Corp. Spectroline DM-300N radiometer) the range is between 5 and 15 $\mu\text{W}/\text{cm}^2$. Irradiances above or below these values result in a decrease in egg viability. Let's assume that we start with a lamp that emits 15 $\mu\text{W}/\text{cm}^2$. From Table 2 we can calculate that the loss after six months will be $15 \times 17.5\% = 2.63 \mu\text{W}/\text{cm}^2$. If we subtract this from the starting 15 $\mu\text{W}/\text{cm}^2$ we have 12.4 $\mu\text{W}/\text{cm}^2$ remaining, an amount well within the tolerance range. The loss after twelve months will be about $15 \times 21\% = 3.2 \mu\text{W}/\text{cm}^2$ which, subtracted from the starting irradiance, leaves about 11.8 $\mu\text{W}/\text{cm}^2$, once again, well within the range of tolerance. So, if we assume that the irradiance from a lamp is at the high end of the range of tolerance for a given species, the reptiles will probably remain healthy if we change the lamps annually.

How can we assess the effectiveness of a lamp, that is, the amount of UVB output and its relationship to the health of the specimens? Even measuring the irradiance with a meter doesn't tell us what the effective range is for a given species. Perhaps we can arrive at some estimate using anecdotal data. In some reptile publications, notably *Reptiles Magazine*, there appear advertisements for various lamps, often with a testimonial from a reputable breeder. We can assume that their success with a particular type of lamp implies adequate UVB output; if there are further questions, such as distance, photoperiod, etc., it's usually easy to track down an e-mail address to ask the breeder directly. As a backup however, we monitor the health of our reptiles, being especially alert to symptoms of nutritional metabolic bone disease which may result from an insufficiency of vitamin D₃ which, in turn, may be caused by inadequate UVB. The symptoms of this condition are accurately described on several websites obtained by entering "metabolic bone disease" into the Google search engine.

Summarily, when using lamps that have been shown to be effective in the hands of successful herpetoculturists, changing lamps every year is likely acceptable.

Literature Cited

- Beltz, E. (editor). 1989. Care in captivity: Husbandry techniques for amphibians and reptiles, p. 6. Chicago Herpetological Society.
- Ferguson, G. W., W. H. Gehrmann, T. C. Chen, E. S. Dierenfeld and M. F. Holick. 2002. Effects of artificial ultraviolet light exposure on reproductive success of the female panther chameleon (*Furcifer pardalis*) in captivity. *Zoo Biology* 21:525-537.
- Gehrmann, W. H., D. Jamieson, G. W. Ferguson, J. D. Horner, T. C. Chen and M. F. Holick. 2004a. A comparison of vitamin D-synthesizing ability of different light sources to irradiances measured with a solarmeter model 6.2 UVB meter. *Herpetological Review* 35(4):361-364.
- Gehrmann, W. H., J. D. Horner, G. W. Ferguson, T. C. Chen and M. F. Holick. 2004b. A comparison of responses by three broadband radiometers to different ultraviolet-B sources. *Zoo Biology* 23:355-363.
- Lindgren, J. 2004. UV-lamps for terrariums: Their spectral characteristics and efficiency in promoting vitamin D₃ synthesis by UVB irradiation. *Herpetomania* 13(3-4). [Reprinted (2005) *Bull. Chicago Herp. Soc.* 40(1):1-9].

Stomach Contents of House Geckos (*Hemidactylus frenatus*) from Hawaii, Hawaii

Dreux J. Watermolen
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921
Dreux.Watermolen@dnr.state.wi.us

Abstract

Stomach content analysis of 10 house geckos (*Hemidactylus frenatus*) yielded a mean of 5.7 (range 2–10) prey items per stomach. A wide variety of prey items, including representatives of 15 families in eight insect orders and one arachnid, confirmed published accounts of varied and opportunistic feeding. Most frequently encountered prey included ants (44.64% of total prey items), followed by moths (14.29%), flies (12.5%) and cockroaches (7.14%). Ants, both winged and wingless species, occurred in 80% of examined stomachs and flies and moths each occurred in 50% of stomachs, suggesting that these taxa could be used to supplement captive gecko diets.

The house gecko (*Hemidactylus frenatus*), a common and easily studied gekkonid lizard, occurs on all the major Hawaiian Islands (McCoy and Busack, 1970; McKeown, 1996). A considerable amount has been published on the competitive interactions and foraging behaviors of this and related gecko species (e.g., Frogner, 1967; Sabath, 1981; Bolger and Case, 1992; Petren et al., 1993; Case et al., 1994; Petren and Case, 1994, 1996, 1998; Werner, 1998; Brown et al., 2002). General descriptions of its feeding habits and diet exist. Relatively little quantitative information regarding its diet, however, has appeared in the literature (reviewed in “Results and Discussion” below). In this note, I report on the stomach contents of 10 *H. frenatus* collected on the island of Hawaii, Hawaii.

Methods

In mid-March 1988, I collected 10 *H. frenatus* (6 females, 4 males) by hand from exterior building walls on the island of Hawaii as part of another study (Watermolen, 1992). I preserved the geckos in 5% formalin and transported them to the laboratory, where procedures used in my principle investigation created an opportunity to further document the diet of *H. frenatus*. I dissected the stomach of each gecko and removed and preserved the contents of each in 70% ethanol. I later inspected prey remains under a dissecting microscope, identified all items to the family level using standard references (Zimmerman, 1948-1978; Hardy, 1960-1981; Tenorio, 1969; Hardy and Delfinado, 1980; Howarth and Mull, 1992; Nishida, 1997, 2002, and references cited therein), and tallied the occurrence of each taxon.

Results and Discussion

All 10 geckos had arthropod prey items in their stomachs. Chou (1984) found similarly large frequencies of prey occurrence in urban and forest habitats (100% and 95.2%, respectively) in Singapore. Ota (1994), however, reported stomach contents in only 38.8–79.1% of geckos collected in the Ryukyu Archipelago. In that study, the frequency varied significantly among monthly samples.

I found remains of 56 insects and one spider (Table 1), with a mean of 5.7 (range 3–10) prey items in each stomach. The

geckos used a wide variety of prey, including representatives of 15 families in eight insect orders and one arachnid. These results confirm published accounts of varied and opportunistic feeding by *H. frenatus*. For example, Frogner (1967) found moths, flies and ants to be the predominant prey of *H. frenatus* on the island of Oahu. Petren and Case (1994, 1996), also working on Oahu, mentioned cockroaches, termites and moths as common prey. Similarly, Sahi (1979), working in southern India, reported flies, mosquitoes, grasshoppers, cockroaches, mantids, leaf hoppers, moths and butterflies as preferred prey. In Singapore, Chou (1974, 1984) found winged ants and flies to be emphasized. In the Ryukyu Archipelago, Ota (1994) noted that isopods and cockroaches constituted the most frequent food items during winter and lepidopterans and flies were the preferred prey in other seasons. Galina-Tessaro et al. (1999) found lepidopterans, followed by grasshoppers and spiders, to be preferred prey on Socorro Island, Mexico.

Clearly, *H. frenatus* cannot be considered a specialized insectivore; it will consume prey items that are abundant and readily available. In my study, the most frequently encountered prey included ants (44.64%), followed by moths (14.29%), flies (12.5%) and cockroaches (7.14%). Ants occurred in 80% of the stomachs examined, while moths and flies each occurred in 50%. Chou (1984) found similar results in Singapore, where winged ants formed the major food item both in number and volume. Flies and moths were the next most frequently encountered prey in his study.

Petren and Case (1996) found winged termites, primarily West Indian dry-wood termites (*Cryptotermes brevis*), comprised 63% of *H. frenatus* diets on Oahu (moths, comprising 17%, were the next most abundant prey). In their study area, termites comprised only 35% of available prey in the absence of geckos suggesting preferential foraging for termites. These authors (p. 123) also noted that geckos “often ignored small [insects] flying around the light when termite alates were available.” Only three of the geckos that I examined had eaten termites; two of these were alates. While I did not quantify available prey at collection localities, my field notes from the time indicate abundant termites (species unknown) at several sites, suggesting a different local prey preference.

Tyler (1961) found *H. frenatus* preferred mosquitoes and other flies in a study in Burma, and Chou (1984) noted that flies, mostly mosquitoes, occurred in 40–42.8% of *H. frenatus* diets in Singapore. The latter author noted, however, that the volume of this food item “was not substantial” compared to other prey that were less numerous but more voluminous. Nonetheless, Canyon and Hii (1997) assessed the potential for *H. frenatus* as a biological control agent for the mosquito *Aedes aegypti* in Australia. These authors demonstrated that *H. frenatus* was “able to consume, on consecutive nights, large numbers” of mosquitoes and that *H. frenatus* could respond to changes in mosquito density and therefore exploit periodic upsurges of species that show seasonal variations in abundance. In my study, mosquitoes (Culicidae) comprised only 5.36% of total prey items and all flies (Diptera) together accounted for 12.5% of prey items. The relatively small number of mosquitoes found in my sample may reflect seasonal variation in mosquito population size (unlikely), an absence of species that are attracted to the lights where the geckos foraged, or a local preference for other taxa.

Tan (2000) noted in laboratory experiments that “most geckos from the wild did not readily accept melon flies [*Bactrocera cucurbitae*, family Tephritidae] as prey” and that houseflies (*Musca domestica*, family Muscidae) treated with melon fly pheromones were consumed less frequently than

untreated flies. Similarly, Hong and Nishida (1998) found that a rectal secretion containing phenyl propanoids deterred geckos from consuming fruit flies (*B. papayae*). Referring to an earlier study, Tan (2000) even noted that some geckos “prefer to starve rather than feed on distasteful flies.” It is not surprising, therefore, that I found no tephritid flies in the gecko stomachs I examined, in spite of their abundance on the island. Only one muscid fly was encountered.

Cogger et al. (1983) found cockroaches to be a preferred prey of *H. frenatus* on Christmas and Cocos Islands, and Petren and Case (1996) noted that *H. frenatus* took large roaches on Oahu. Cockroaches (American cockroach, *Periplaneta americana*, and Australian cockroach, *P. australasiae*) comprised 7.14% of prey items in the gecko stomachs I examined. While this percentage is not especially large, a third of the *H. frenatus* consumed cockroaches, which tended to be the largest insects consumed. Sahi (1979) suggested that larger insects “are usually preferred,” but the presence of larger cockroaches did not seem to affect predation on other insects in my study (Table 1). For example, one gravid female gecko had consumed 5 other insects in addition to a cockroach, although I cannot say in what order the gecko consumed the insects.

Sahi (1979) noted that certain insect families and orders “such as hemipterans, hymenopterans (except winged ants) and

Table 1. Prey items found in the stomachs of 10 *Hemidactylus frenatus* collected on Hawaii, Hawaii

Prey items Insect order (Common name) Insect family	Geckos										Total occurrences
	1 ♀	2 ♀	3 ♂	4 ♂	5 ♀	6 ♀	7 ♀	8 ♂	9 ♀	10 ♂	
Dermaptera (Earwigs) Forficulidae		1									1
Blattaria (Cockroaches) Blattidae			1	2			1				4
Isoptera (Termites) Kalotermitidae		1				1				1	3
Hemiptera (True bugs) Miridae Lygaeidae	1				1		1				2 1
Coleoptera (Beetles) Curculionidae								1			1
Lepidoptera (Moths & butterflies) Noctuidae Pylalidae	1		1 1			2 1			1	1	5 3
Diptera (Flies) Culicidae Phoridae Syrphidae Muscidae		1 1			1 1		1	1	1		3 2 1 1
Hymenoptera (Ants & wasps) Formicidae Braconidae Chalcididae	5 1	1	1	4 1		1	2 1	8		3 1	25 3 1
Total prey items	8	5	4	7	3	5	6	10	2*	6	56

* A small unidentified spider (Arachnida: Araneae, probably family Theridiidae) was also found in the stomach of this gecko.

some coleopteran families (Cantharoidae, Hydrophilidae) are left alone.” In my study, however, geckos consumed both ants and wasps (Table 1). Interestingly, only seven of the 25 ants (28%) I found in gecko stomachs had wings, possibly suggesting a local preference for wingless species or exploitation of a locally or temporally abundant resource.

Captive *Hemidactylus* reportedly become “ravenous feeders” on crickets (*Acheta domesticus*) (Both, no date) and laboratory animals feed readily on fruit flies (*Drosophila melanogaster*) (Chou et al., 1988). Herpetoculturists usually recommend providing a variety of foods including houseflies, maggots, waxworms, mealworms, locusts and roaches (Both, no

date; Mattison, 1992; PETCO, 2003). My observations suggest that small ants, including wingless species, and noctuid moths could be used to supplement other prey items for captive *H. frenatus*.

Acknowledgments

Gecko collections occurred during a St. Norbert College field studies course led by J. R. Hodgson and T. Flood. Appreciation is extended to them for their encouragement and field assistance. The Wisconsin Department of Natural Resources provided laboratory space for the identification of prey remains.

Literature Cited

- Bolger, D. T., and T. J. Case. 1992. Intra- and interspecific interference behaviour among sexual and asexual geckos. *Animal Behaviour* 44(1):21-30.
- Both, A. R. (no date). *Geckos: Rare and common*. Reptile Quarterly. Neptune City, New Jersey: T.F.H. Publications.
- Brown, S. G., R. LeBrun, J. Yamasaki and D. Ischii-Thoene. 2002. Indirect competition between a resident unisexual and an invading bisexual gecko. *Behaviour* 139(9):1161-1173.
- Canyon, D. V., and J. L. K. Hii. 1997. The gecko: An environmentally friendly biological agent for mosquito control. *Medical and Veterinary Entomology* 11(4):319-323.
- Case, T. J., D. T. Bolger and K. Petren. 1994. Invasions and competitive displacement among house geckos in the tropical Pacific. *Ecology* 75(2):464-477.
- Chou, L. M. 1974. Diet of the common Singapore house gecko, *Hemidactylus frenatus*. *Journal of the Singapore National Academy of Science* 4:11-13.
- . 1984. The ecology of the gecko, *Hemidactylus frenatus* in Singapore. *BIOTROP Special Publication* 21:87-95. Southeast Asian Regional Center for Tropical Biology.
- Chou, L. M., C. F. Leong and B. L. Choo. 1988. The role of optic, auditory, and olfactory senses in prey hunting by two species of geckos. *J. Herpetology* 22(3):349-351.
- Cogger, H. G., R. Sadler and E. Cameron. 1983. The terrestrial reptiles of Australia's island territories. *Special Publication* 11. Australian National Parks and Wildlife Service. [not seen, but cited in Werner (1998)].
- Frogner, K. J. 1967. Some aspects of the interaction between the gecko species *Hemidactylus frenatus* and *Lepidodactylus lugubris* in Hawaii. M.S. Thesis. Honolulu: Univ. Hawaii Press.
- Galina-Tessaro, P., A. Ortega-Rubio, S. Alvarez-Caradenas and G. Arnaud. 1999. Colonization of Socorro Island (Mexico), by the tropical house gecko *Hemidactylus frenatus* (Squamata: Gekkonidae). *Revista de Biología Tropical* 47(1). Available on the Worldwide Web at <http://rbt.ots.ac.cr/> [accessed August 2004].
- Hardy, D. L. 1960-1981. *Insects of Hawaii: A manual of the insects of the Hawaiian Islands, including an enumeration of the species and notes on their origin, distribution, hosts, parasites, etc.* Vols. 10-12, 14. Honolulu: Univ. Hawaii Press.
- Hardy, D. L., and M. D. Delfinado. 1980. *Insects of Hawaii: A manual of the insects of the Hawaiian Islands, including an enumeration of the species and notes on their origin, distribution, hosts, parasites, etc.* Vol. 13. Honolulu: Univ. Hawaii Press.
- Hong, K., and R. Nishida. 1998. Ecological significance of male attractant in the defense and mating strategies of the fruit fly, *Bactrocera papayae*. *Entomologia Experimentalis et Applicata* 89(2):155-158.
- Howarth, F. G., and W. P. Mull. 1992. *Hawaiian insects and their kin*. Honolulu: Univ. Hawaii.
- Mattison, C. 1992. *The care of reptiles and amphibians in captivity*, rev. 3rd edition. London: Blandford.
- McCoy, C. J., and S. D. Busack. 1970. The lizards *Hemidactylus frenatus* and *Leiopisma metallica* on the island of Hawaii. *Herpetologica* 26(3):303.
- McKeown, S. 1996. *A field guide to reptiles and amphibians in the Hawaiian Islands*. Los Osos, California: Diamond Head Publishing, Inc.

- Nishida, G. M. (editor). 1997. Hawaiian terrestrial arthropod checklist. 3rd edition. Bishop Museum Technical Report 12: i-iv, 1-263.
- (editor). 2002. Hawaiian terrestrial arthropod checklist. 4th edition. Bishop Museum Technical Report 22: i-iv, 1-313.
- Ota, H. 1994. Female reproductive cycles in the northernmost populations of the two gekkonid lizards, *Hemidactylus frenatus* and *Lepidodactylus lugubris*. *Ecological Research* 9:121-130.
- PETCO. 2003. House gecko, *Hemidactylus frenatus*, Care Sheet. San Diego: PETCO Animal Supplies, Inc., 2 pp. Available on the Worldwide Web at http://www.petco.com/caresheets/lizards/Gecko_House.pdf [accessed August 2004].
- Petren, K., D. T. Bolger and T. J. Case. 1993. Mechanisms in the competitive success of an invading sexual gecko over an asexual native. *Science* 259:354-357.
- Petren, K., and T. J. Case. 1994. Gecko power play in the Pacific. *Natural History* 103(9):53-60.
- Petren, K., and T. J. Case. 1996. An experimental demonstration of exploitation competition in an ongoing invasion. *Ecology* 77(1):118-132.
- Petren, K., and T. J. Case. 1998. Habitat structure determines competition intensity and invasion success in gecko lizards. *Proceedings of the National Academy of Sciences* 95:11739-1174.
- Sabath, M. D. 1981. Gekkonid lizards of Guam, Mariana Islands: Reproduction and habitat preference. *J. Herpetology* 15(1):71-75.
- Sahi, D. 1979. Some observations on the common house gecko (*Hemidactylus frenatus*) of southern India. *J. Bombay Natural History Society* 76(3):521-523.
- Tan, K-H. 2000. Sex pheromone components in defense of melon fly, *Bactrocera cucurbitae* against Asian house gecko, *Hemidactylus frenatus*. *Journal of Chemical Ecology* 26(3):697-704.
- Tenorio, J. M. 1969. Insects of Hawaii: A manual of the insects of the Hawaiian Islands, Including an enumeration of the species and notes on their origin, distribution, hosts, parasites, etc. Vol. 11, Suppl. Honolulu: Univ. Hawaii Press.
- Tyler, M. J. 1961. On the diet and feeding habits of *Hemidactylus frenatus* (Duméril and Bibron) (Reptilia: Gekkonidae) at Rangoon, Burma. *Transactions of the Royal Society of South Australia* 84:45-49.
- Watermolen, D. J. 1992. Site-selectivity by parasitic mites (Acarina: *Geckobia*) on the house gecko (*Hemidactylus frenatus*). *Bull. Chicago Herp. Soc.* 27(5):114-115.
- Werner, Y. L. 1998. Preliminary observations on foraging mode in a community of house geckos on Tahiti and a comment on competition. *Tropical Ecology* 39(1):89-96.
- Zimmerman, E. C. 1948-1978. Insects of Hawaii: A manual of the insects of the Hawaiian Islands, including an enumeration of the species and notes on their origin, distribution, hosts, parasites, etc. Vols. 1-9. Honolulu: Univ. Hawaii Press.

Herpetological Devices on Medals of the U.S. Mint

David Chiszar
Department of Psychology, CB 345
University of Colorado
Boulder, CO 80309

Hobart M. Smith
Department of EEBiology, CB 334
University of Colorado
Boulder, CO 80309

The medallic history of the United States began during the Revolutionary War under the direction of Thomas Jefferson, then Ambassador to the Court of France. His location at that time probably accounted for the now embarrassing fact that the dies for nearly all early medals presented to American Revolutionary War heroes and others were made at the French Mint. It must be kept in mind, however, that three of the world's foremost medalists at the end of the 18th century were Parisians working at the French Mint: Benjamin Duvivier, Nicolas Marie Gatteaux, and Augustin Dupre; we might be glad that these gifted men became the creators of spectacular early medals, including the first one awarded by the Continental Congress (March 25, 1776) to General George Washington for his siege of Boston and its eventual evacuation by General Howe. Alas, Duvivier's medal was non-herpetological, though it was magnificent in other respects (e.g., the reverse contains a legend saying "Hostibus primo fugatis," the enemy put to flight for the first time; and "Bostonium Recuperatum XVII MARTII MDCCLXXVI," Boston retaken, March 17, 1776; and there is a central scene of Washington and three officers, all mounted and positioned atop Dorchester Heights next to his siege cannons watching the British fleet sailing out of Boston Harbor). Clearly the war was on, and the Americans quickly had a hero.

Another hero, Brigadier General Anthony Wayne, was similarly honored for his bravery at the Battle of Stony Point (July 16, 1779), about 35 miles north of New York City, along the Hudson River. Almost inexplicably this medal, designed

by Gatteaux, contains an alligator. The reptile is part of Gatteaux's personification of America: an Indian queen wearing a skirt of feathers and having at her feet a bow, an American shield, and an alligator. "America" presents to Gen. Wayne a laurel wreath and a crown, in appreciation for his military exploits. We can only wonder about the Frenchman's idea that a crown would be an appropriate device for an American military hero, but it is probably not surprising that the same Frenchman would see an alligator as an appropriate device for personifying America, as he would undoubtedly have been influenced by tales, artifacts, and even live animals imported from Louisiana.

Seven other Revolutionary War heroes were honored with medals, but none of these contained herpetological devices. On the other hand, when Thomas Jefferson was Secretary of State under President Washington, he authorized (1790) the creation of a U.S. Diplomatic Medal as "a present proper to be given to diplomatic characters on their taking leave of us." Mr. Jefferson designed the medal, which was then executed by Dupre in Paris (Figure 1); dies were sent to the United States and medals were struck at the mint as was the case for all of these early medals. Gold versions were presented to two French Ministers who served during and just after the Revolutionary War; thereafter, this diplomatic presentation was discontinued. The obverse of the diplomatic medal contains, once again, Dupre's female native American as a personification of America, but now the bow and the alligator are gone, although she still wears a quiver filled with arrows slung across her back. She



Figure 1. United States Diplomatic Medal; date in obverse exergue is July 4, 1776. See text for additional information about obverse design. Readers will note that the reverse is quite similar to part of the Great Seal of the United States, as this was consistent with Jefferson's instructions to the medalist, Augustin Dupre.



Figure 2. Long before the War with Mexico, General Winfield Scott had distinguished himself in the War of 1812, for which he received this herpetological medal.

holds in her left hand a cornucopia of abundance symbolizing peace and prosperity, and her right hand points to American products packed and available for exportation. A ship in the background stands at the ready. America greets Mercury in his role as patron of peaceful commerce, indicated by the winged caduceus in his left hand. Of the thirteen herpetological medals we have identified in the entire production by the U.S. Mint, this is one of the most spectacular, partly because of Jefferson's involvement and partly because of the conspicuous optimism of its message. Incidentally, the caduceus turns out to be the most common herpetological device on American medals, occurring four times properly as symbols of commerce and once improperly as a symbol of medicine (honoring Dr. Jonas E. Salk in 1955; Chiszar and Smith, 1998). In two other cases, both involving MDs, a proper symbol of Aesculapius with but a single snake was used. Dr. Frederick Rose, an assistant surgeon in the royal Navy was honored in 1858 for his medical aid to the crew of the USS *Susquehanna*, suffering from yellow fever in the waters near Port Royal, Jamaica. Dr. Rose not only cared for the officers and crew in a Jamaican hospital, but he also joined the *Susquehanna* for the return trip to New York, caring for the sick on board. Dr. David Hosack was honored in 1835 for a lifetime of work not only in natural history and medicine (at Columbia and Rutgers Universities) but also in art (he was an incorporator of the American Academy of Fine Arts), and history (he was president of the New York Historical Society from 1820-1828).

Brigadier General Winfield Scott was awarded a splendid herpetological medal for distinguished service during the War of 1812 at Chippewa (July 5, 1814) and Niagara (July 25, 1814) (Figure 2). The reader will note that the medal's obverse reads "Major General Winfield Scott," not Lieutenant or Brigadier General. The congressional resolution awarding the medal occurred on Nov. 3, 1814, and General Scott had been brevetted to the rank of Major General on Sept. 14; therefore,

the higher rank appeared on the medal although he was not actually promoted to the rank of Major General until 1841. The reverse of the medal contains a wreath of laurel and palm, with a snake intertwined. The snake is biting its tail, so the herpetological image is the ouroboros, a symbol of immortality (also spelled ouroborous, uroboros and uroborus; see web site in Literature Cited.). Wrapped in laurel and palm, the symbol becomes immortality gained through glory and victory. In 1846 Major General Zachary Taylor was awarded a medal containing the same reverse device for his service at Palo Alto and Resaca de la Palma, early in the war with Mexico. The director of the mint (1835-1851), Dr. Robert Maskell Patterson, liked this reverse device so much that he arranged to have it used on a medal struck in his honor. Secretaries of the Treasury and Directors of the Mint were traditionally honored with medals upon retirement, though Dr. R.M. Patterson is the only one to use this heraldic device.

Generals Scott and Taylor would each receive two more medals for their service in the Mexican-American War; one each would be herpetological. In the case of General Scott, the herpetological medal was struck by the U.S. Mint but presented by his home state of Virginia in 1847 "for the great and distinguished services of her son whilst Commander in Chief of the American armies in the War with Mexico." On the obverse of this medal is the general's bust, flanked by Mexican flags, tilted to 45°. On each flag can be seen the Mexican eagle with a snake in its grasp. General Taylor's herpetological medal was awarded in 1848 (Figure 3). The reverse contains a scene from the Battle of Buena Vista (1847), within a circle formed by two serpents one of which is a rattlesnake, symbolizing the United State and General Taylor, no doubt through allusion to earlier crotaline images containing phrases such as "don't tread on me" and "no one threatens me with impunity." In any case, the American army under Taylor defeated a Mexican army of greatly superior strength under



Figure 3. Major General Zachary Taylor received three medals for his service in the War with Mexico. One of these had a reverse similar to the one shown in Figure 2. The medal shown here has a reverse even more spectacular, with the American rattlesnake vanquishing its noncrotaline Mexican counterpart.

General Santa Anna. In other words, the rattlesnake put its ophidian enemy to flight. This interpretation is strengthened by the appearance of an oak branch beneath the rattlesnake and a cactus branch beneath the other snake.

An image of a rattlesnake is now fused with the national identity of Mexico because the snake in the grasp of the eagle in the national emblem is clearly a rattlesnake. Hence, it might seem odd to us that a rattlesnake represents the United States and her general in this medal. This is, however, an anachronistic matter, as the snake in the grasp of the eagle in the Mexican national emblem was not a rattlesnake for the first century of that emblem, and the snake became a rattlesnake long after the time when Mexico shifted from the Republica de Mexico to Los Estados Unidos de Mexico (Chiszar and Smith, 1996). Consequently, at the time of the war with Mexico, there had been no emblematic crotaline tradition in that country, though there had been such a tradition in the United States.

Recalling that Secretaries of the Treasury and Directors of the Mint were honored with medals upon retirement, we will include an illustration of the ordinary use of caducei (Figure 4) as symbols of money and commerce. Raymond T. Baker was director of the mint from 1917 to 1922, and the reverse of his medal contains parallel caducei, symbols of his office.

Another proper but as yet unfulfilled use for the caduceus could derive from Mercury's (= Hermes') additional role as patron of thieves, in which case we could imagine bestowing caducei upon certain Enron executives and other white collar



Figure 4. Raymond Thomas Baker was Director of the Mint from March 1917 to March 1922. Note the twin caducei on the reverse.

crooks. Alas, we know of no instance in which this usage has occurred in the ancient or modern worlds, and we suspect that any attempt at such a usage today would be obfuscated by either the equally correct commerce-business connotations or by the incorrect medical ones that are strongly present within the American psyche. Either way, the bad guys would be let off because of a smokescreen of misinformation and misconception, aided by additional smokescreens created by lawyers, so that the underlying herpetological device would be properly interpreted by precious few people.

As a concluding remark, we call attention to the fact that the mint issued in its miscellaneous series a posthumous medal honoring Benjamin Franklin. Its reverse contains four muses representing philosophy, literature, science and patriotism. We have no disagreement with Mr. Franklin's involvement in these fields, but Mr. Franklin was also the architect of the early paper money of the colonies. He wrote about the desirability of a system of paper money, and he invented techniques for printing money, including anticounterfeiting measures. Weatherford (1997) refers to Franklin as the "Father of Paper Money," and Franklin had ideas about many other aspects of money, commerce, insurance and banking (Smyth, 1905-1907). Without doubt another muse should have been included on Franklin's medal and she should have been holding a splendid caduceus.

Acknowledgment

We thank C&C Coins and Collectibles, 381 Main Street, Longmont, Colorado, for access to important literature.

Literature Cited

- Chiszar, D., and H. M. Smith. 1996. Ophidian evolution in the numismatic history of Mexico. *Bull. Chicago. Herp. Soc.* 31(12): 220-221.
- Chiszar, D., and H. M. Smith. 1998. The caduceus and the staff of Aesculapius as symbols of medicine. *The Celator* Feb.:14-17.
- Failor, K. M., Cpt., and E. Hayden. 1972. *Medals of the United States Mint*. Washington, D.C.: U.S. Government Printing Office.
- Smyth, A. H. 1905-1907. *The writings of Benjamin Franklin*. 10 vols. N.Y.: Macmillan. (especially an item published in 1729—a modest inquiry into the nature and necessity of a paper currency.)
- Weatherford, J. 1997. *The history of money: From sandstone to cyberspace*. New York: Three Rivers Press.

Herping in Australia—Field Notes and More Part 1: Sydney's Inner Suburbs

Raymond Hoser
488 Park Road
Park Orchards, Victoria 3134
AUSTRALIA

Introduction

Most readers of the *Bulletin of the Chicago Herpetological Society* have read numerous articles detailing herping safaris in Australia's tropical north and northwest either in magazines like *Reptiles*, or elsewhere. It seems that almost every herpetologist and reptile enthusiast (or what I'll call a herper) worth their salt has done a big safari to this part of the world and seen firsthand the amazing herps (reptiles and frogs) that populate these areas. And yes, most of us now have an instant recognition of such beauties as black-headed pythons (*Aspidites melanocephalus*), various death adders (*Acanthophis* spp.), pigmy monitors and some of the incredible variety of geckos from Australia's tropics.

Nowadays some of these herps are commonly featured in most major dealers' price lists and no doubt may appear (in name at least) in this or other issues of this very publication. In terms of the herp field trips "up north," yes, I've done them too. But rather than provide you with yet another article along the lines of what you've probably already read, I'm going to show you another side of the Australian herpetofauna, with which you are probably not so familiar. This series details some herps from Australia's most heavily populated southeast.

I grew up in Sydney, in Australia's southeast. That is Australia's largest city. Now I live in Melbourne, which is about 900 km southwest of Sydney and that's Australia's number two city in terms of population (and most other things as well). Between them, these cities and their environs house roughly half of Australia's 20 million people and so for us here in Australia, the bushland surrounding these cities and their hinterlands are in fact those we are most familiar with. Okay, so it isn't necessarily awash with countless beautiful geckos, large pythons, crocodiles and the like, but these southern areas do have their own amazing and unique array of herpetofauna. Or perhaps more correctly, I should say "arrays" as there are numerous habitat types and each often has its own suite of unique species.

So in this series of articles you are going to read about my own "hands-on" field herping experiences in Australia's southeast. You are not going to read about all the species found in given areas, or even about all the species I've seen myself. Rather, you'll be taken through a tour of the highlights as arbitrarily determined by me, including the common, the rare and the unusual.

You will also find the following to be a "how-to" find the species mentioned, including where and when to go looking. In between all this, I'm going to give you a smattering of science laced with personal observations and even some humor based on experiences.

I hope that some of you will be able to use bits and pieces of my own experiences and findings to enhance your own herping experiences in the wild, no matter where your expeditions may take you.

The Necessary Stuff

Before telling you about some of my own herping experiences, I've got to issue the general list of warnings and covering statements. I suppose that this is a sign of the times and the lawyers and bureaucrats have made sure that I put the next bit in. For those of you not aware, Australia has some of the most restrictive and draconian laws in the world in terms of its herps. As a general rule it is illegal to catch, collect or even "interfere" with any herps in the wild. So to do many of the things referred to in the following articles is highly illegal. In other words if anyone comes to Australia and tries to do what is reported in this article, (or uses this as a "how-to"), they may run the very real risk of fines, jail or both. And if you do so, then you are on your own!

The laws vary from state to state, and yes, there are local laws and federal laws on top of these! The various governments here apparently change the laws more often than I change my underpants and often it seems not even the government itself knows what's going on!

The enforcement of laws in Australia is sometimes so lax as to make one wonder why the laws are there at all, while at other times they are enforced with such vigor one can only compare the zeal of the authorities with that of Hitler's SS.

By way of example, I'll highlight a pair of recent cases in Melbourne.

There was the case of Steve Bennett who in 1997 broke up with his girlfriend. She "dobbed" Steve in to the wildlife department. With zeal rivalling the FBI's best they came into his house, waved around their guns and seized his entire herp collection. His whole collection consisted of a few green tree-frogs (*Litoria caerulea*). Now they are as common in captivity here in Australia as everywhere else in the world. Not only that, they are in their millions here in the Australian bush so are literally a dime a dozen.

His frogs were being housed in a custom-made glass tank that was fitted in with the decor of his lounge. The wildlife officials also took the cage!

For this "serious" breach of the wildlife laws, Steve was dragged into the Dandenong Magistrate's Court and magistrate Hal Hallenstein took a very dim view of things. He declared Bennett a serious threat to all of Australia's wildlife. Hallenstein then went on to convict Bennett and fine him AU\$1,000.

In 2001, snakes Rob Valentic and Chris Hay were raided by the Victoria Police Drug Squad. The coppers had allegedly used their helicopter to detect an indoor hydroponic set-up for growing cannabis, which is supposed to be highly illegal in Victoria. As the heavily armed coppers ran into Valentic's Donnybrook house they found a few stropky creepy crawlies and called in the local wildlife department to give them a hand. Chris Hay later recalled "The DNR (wildlife department) blokes gave the impression they didn't even want to be there. It was the coppers who were running the show and pushing against us."

Between them, the authorities seized a load of illegally caught Australian reptiles and some foreign snakes that had been smuggled in. This included spitting cobras (*Naja* sp.) and other dangerously venomous snakes for which there is no antivenom here in Australia. Then there were all the "usuals" like death adders (*Acanthophs* spp.), taipans (*Oxyuranus* spp.) and the like.

On top of that the police found a house full of hydroponic cannabis crops and a stash of illegal guns. And they also found that Valentic had used his skills as an electrician to bypass the meterbox and steal power from the electricity company.

A follow-up raid on Chris Hay's Gisborne house found more contraband, including exotic spiders and a puff adder (*Bitis arietans*). The pair were charged and faced Broadmeadows court in late 2001.

Now in Australia we supposedly have "parity of sentence" laws, which means that if one person is found guilty in court of a given type of offense and given a particular penalty, then others in the same position should also be given the same sort of penalty. It's part of the British legal system based on precedents. The only problem being that these so-called rules of law are more often honored in the breach than the observance.

And so it was with the Valentic/Hay matter. For the drug crop alone, the usual penalty would be jail. For the exotic herps, jail or a very steep fine would also be expected. Recall another man, John Nichols of New Zealand had been given 18 months jail over just a few shinglebacks (*Trachydosaurus rugosus*) and bearded dragons (*Pogona vitticeps*). Or the case of Joe (Atillo) Mara who got stung about \$10,000 in the Victorian courts a few months earlier for his importation of a few exotic herps in the form of New Guinea green pythons (*Chondropython viridis*).

The electricity theft is, in the usual course of events, taken more seriously. I assume that this is to prevent other people from getting the same idea. It isn't unheard of for drug dealers to get fines for their drug crops and jail for stealing the electricity. And as for the weapons charges, well, we had a decent-sized massacre here in Australia a few years back. Known as the "Port Arthur Massacre," on 28 April 1996, an allegedly lone gunman by the name of Martin Bryant went berserk at the Broad Arrow Cafe at Port Arthur in Tasmania and shot and killed 35 people and wounded another 18. As a result of that, the Australian government brought in these tough new gun laws that are uniform in all states and thus

people with these newly illegal weapons were forced to hand them in or go to jail.

Anyway, when Valentic and Hay faced magistrate Alan Spillane, he simply looked at Hay and Valentic and shrugged off their indiscretions. He let them both walk free without conviction. Gobsnacked, Peter Courtney from the local wildlife department appealed to the next court up (the County Court), but again the pair escaped without conviction, when the matter was heard in early 2002.

Now perhaps I shouldn't mention this, but this result has incredible ramifications in terms of the parity of sentencing argument. It could effectively be taken as a green light for people here in Australia to grow drugs, have illegal weapons, steal power from the utility company and deal in smuggled herps without risk of conviction.

And yes, word around the traps is that local customs officials, who were beaten to the punch in laying the charges by the Wildlife Officers, are so incensed at the result that they have sought a rewrite of the laws and removal of all jurisdiction over non-indigenous fauna back to their own department (as appeared to be the case about ten years ago).

But the only rider I should add here is that the legal system in Australia is so completely corrupt, inept and inconsistent that the result of a given case often depends more on who you know, rather than what you know, or what side of bed the presiding judge or magistrate got out on, so I should once again caution against any potential breaches of the laws.

Now perhaps I should tell readers here how I have been able to collect herps here in Australia and not break the laws (at least not knowingly), bearing in mind all that I have just said. Most of what appears in this series of articles deals with herps in the context of one of the following:

- The collecting was done long ago and back in the days when you didn't need a permit to find and trap herps.
- The collecting was done (in recent years) pursuant to one or more permits issued to myself and/or the person I was with.
- The herps were observed and not caught.

And also I should perhaps mention that not all wildlife officials here in Australia are necessarily bad blokes. Their job is a bit like being a parking policeman. It's a mongrel job, but someone here has to do it. Some officials here will actually bend over backwards to accommodate the wishes of any bona fide herper, so it's not all doom and gloom.

Descriptions of most species here are by necessity either brief or nonexistent. Instead I rely on reader's pre-existing knowledge and/or any photos that may accompany this article. The nomenclature/taxonomy used here will in the main reflect that used by Hal Cogger in his most recent books (such as Cogger et al. [1983] and Cogger [2000]), although a few names may derive from Worrell (1970). I do this to save potential confusion for readers, not because it is necessarily correct. By way of example, most authorities in Australia, including Hal Cogger (see Cogger, 2000) and Mike Tyler (see

Tyler, 1992) apparently cling to the outdated notion that most or all Australian treefrogs are of the genus *Litoria*, which is clearly untenable. The genus has already been split (in the main by Wells and Wellington [1983, 1985]), but for reasons best known to Hal, Mike and others the various other names have not yet moved into general use.

However, in a few cases I do incorporate some changes such as some (but not all) of those made by Wells and Wellington (1983, 1985), generally including those that have since those publications moved into general and accepted usage. What I ask is that people not complain to me about the scientific names used in these articles, as I hereby concede in advance that some may in fact be either outdated or incorrect. Names used here, while generally correct, have been used on the basis that the reader will be able to accurately determine the given species being discussed.

Readers should note that being in the Southern Hemisphere, references to seasons and times of year tend to be opposite as for the Northern Hemisphere. Seasons of course are critical in terms of activity by different species and when they can or cannot be found by herpers.

Now for the purists who may want to know the Lat Longs of the places named in this article, I simply refer them to the website at <http://www.calle.com/world/australia/index.html> which has the lot, as well as altitudes, local maps and the like.

Inner Sydney Houses

I start here, because this is where I started my herping career. Now it may not be Darwin, Northern Territory (Australia) or Miami, Florida (USA), but I've got to say that for a city of over 3 million people, Sydney rates pretty darn well in the herping stakes! It's not all that surprising that I first got into herps in Sydney, because when you live here, they're pretty hard to miss! Even in my own backyard in inner suburban Lane Cove we had herps.

We had little skinks, medium skinks and even big skinks! Lane Cove is about 8 km from the Sydney Central Business District (CBD) and like many other suburbs of inner Sydney is characterized by houses that are 50 or more years old. Commonly set on the average Australian quarter-acre block, these houses tend to have large back gardens that in Sydney's temperate and humid climate soon become overgrown. Being littered with the locally occurring sandstone rocks and other man-made rubbish in the form of sheets of tin, broken pots, concrete and the like, these gardens soon become a perfect sanctuary for smaller, more innocuous reptiles that can survive the other facets of human habitation in the form of domestic cats and the like.

Now the sandstone rocks found in Sydney and its backyards are one of this city's trademarks. The rock is everywhere and it totally dominates the bush both in the inner suburbs and on the outskirts. And any herper will tell you that habitat with lots of loose rocks is always a good place to find herps. Not only that, but the sandstone habitat from Sydney and its environs has given rise to numerous endemic species, such as the broad-headed snake (*Hoplocephalus bungaroides*) and

Krefft's Cunningham's Skink (*Egernia cunninghami kreffti*). (Actually, *sensu stricto*, *E. cunninghami* should be used for the New England form only, *E. kreffti* the Sandstone form and *E. barnetti* the more familiar southeastern Granite Belt form. Photos of all three kinds can be found in my 1989 book *Australian Reptiles and Frogs*).

While skinks are common in all parts of Australia, it's here in the southeast that they really do show up as the most abundant herpetofauna. By comparison, the other kinds of herps are relatively rare!

The most common small skinks in Lane Cove were the grass skink (*Lampropholis guichenoti*), delicate skink (*Lampropholis delicata*) and weasel skink (*Saproscincus mustelina*). The same pattern repeats for most of Sydney's other suburbs. All are fast-moving species that grow to about 5–6 cm in length. Herpers often call them "feed-skinks" because that's what we use them as — feed for other herps, usually snakes.

In the backyard situation, the grass skinks preferred the drier more open areas, such as rockeries near lawns. The delicate skinks were most common in the moist overgrown gardens, while the weasel skinks preferred their habitats to be even more damp and often with minimal sunlight penetration from the trees above.

Throughout inner Sydney these were the skinks that tended to dominate the backyard herp scene. There are of course loads of other small skink species in the same size class as these, but only a few other species are found around Sydney and these tend to be far more restricted in distribution and number.

One of these that you'd occasionally see in my suburb of Lane Cove was Bouton's snake-eyed skink (*Cryptoblepharus boutoni*). These you'd find inhabiting cracks on walls of old houses in the inner suburbs. They are extremely fast moving and run with a jerking motion, making them by far the hardest of the small skinks to capture. Rarely would you ever see more than one or two, but I recall once seeing about 50 of them at once basking on a large sandstone retaining wall at a summer pool party in the suburb of Castle Cove. The funny thing is that when I tried to capture some, I was unable to get any! They were all way too fast.

A medium skink that you'd occasionally see around the traps was the silver skink (*Sphenomorphus tenuis*). It grows to about 15 cm in length. This is seen reasonably frequently around brick and sandstone formations in the inner North Shore from Mosman to Lane Cove and is even common around the over-100-year-old houses of Milson's Point and "The Rocks" on the opposite side of Sydney Harbour. The strange thing is that while they are reasonably common in the heavily built-up parts of the lower North Shore, these lizards are relatively uncommon in the remnant bushland of these suburbs and even less so in the bush around Sydney's outskirts.

The first big skink I ever found in my backyard at Lane Cove was a three-foot eastern bluetongue (*Tiliqua scincoides*). It was huge and I nearly trod on it as I walked through a

grassy patch in the yard. The lizard didn't try to run or escape, but instead just opened up its mouth and hissed at me. I was only a boy at the time, so I hissed back at it, before tailing it into a box.

The lizard became a faithful pet for many years after that. Now perhaps I should qualify the "three-foot" part of this lizard. The lizard measured some two feet in length, but was missing a leg. Hence it was a three-foot bluetongue. That also explains why it didn't try to run away when I first stumbled upon it.

In Sydney's suburbs, the distribution of bluetongues is somewhat patchy. There doesn't appear to be much rhyme or reason sometimes, but some houses and streets seem to have one or more lizards and then others in the same general area have none. Obviously the lizards also move about a bit, but my own experiences showed that in the main, the lizards tended to set up shop somewhere and then barely move. A mate of mine in Sarna Road, Greenwich, had a family of bluetongues living under a sheet of tin in the yard (yes, mother, father and offspring) and save for a few of the young ones, the lizards were there for a few years. Another friend had a single adult reside in a dry drainage pipe next to a swimming pool in his garden at suburban Middle Cove.

Now readers of *Bull. CHS* don't need me to describe the details of bluetongue lizards to them, but suffice to say, that once I had the bug of the bluetongue lizard, I wanted more! The next large lizard to enter the garden of our Lane Cove house was a big black shingleback. It too ended up in a cage. Now these aren't native Sydney. The climate's way too humid for them so they don't tend to last too long unless kept in a very dry cage. So this one was obviously an escaped pet or something similar.

One of the fortunate things about Sydney (and most other parts of Australia) is that no exotic herps have taken hold here. Anyone who has seen the death and destruction caused by the exotic reptiles in Florida can attest to that!

It's also a good advertisement in favor of maintaining a general ban on importing foreign herps into Australia. This is currently one of the most pressing issues for regulators here at the moment (2002), with the quarantine people wanting exotic herps out and the keepers divided into two well defined camps, one lot wanting to keep foreign herps and the other lot totally opposed.

Getting back to the shingleback, well it was a bit like the cat with nine lives. You see it escaped from my cage as well and gained a few more days of freedom. But this lizard wasn't like the bluetongues. It walked!

How do I know this? Well I recaptured it about 2 km away just a week later. The lizard escaped again and six months later resurfaced in the garden on my schoolteacher, again about a kilometer away.

Inner Sydney Bushland

Sydney is like most other cities in the world. Where the humans have moved in, the herps have moved out! Native to

Sydney are over 20 species of snake. Prior to settlement, there were well over ten species in all areas, with the possible exception of the clay soil areas of the Cumberland Plain, now home to Sydney's western suburbs. Species diversity there was lower due to the lack of sandstone rocks and the fact that the species dominant there tend to eat other potentially competing species.

Obviously there are no snakes now in the CBD area and snakes tend to be absent from most inner suburbs, even when there is remnant bushland about. As one moves away from the CBD and into the middle and outer suburbs (10–30 km from the city) the species diversity in remnant bushland goes up, until one reaches the larger national parks to the north and south, which then retain their full original species diversity in terms of herps. Ditto for the Blue Mountains starting about 60 km west of the city which also retain full species diversity.

Inner suburban Sydney is effectively built out, save for a patchwork of gulleys that have retained their remnant bushland but lost most species of native vertebrates. Due to the humid climate in Sydney, these gulleys are usually of a cool rain-forest type of habitat and often overgrown with invasive feral weeds introduced from Europe and other parts of the world. The creeks tend to be polluted and the species diversity of frogs is also very much reduced. Ditto for the lizards.

There are, however, some species that have not only survived, but actually thrived in these degraded habitats. Bluetongue lizards (*Tiliqua scincoides*) are not one of them. The habitat is generally too wet and damp for them and they are more common in the suburban backyard kind of environment, including that which usually borders this habitat. However there are some largish lizards in these moist gulleys. The ones most commonly seen scuttling about are the eastern water skinks (*Eulamprus quoyii*). Almost every creek in the inner Sydney area is populated by huge numbers of these lizards.

In some areas they are way too fast and elusive to ever capture, (usually near rocky creeks), but there are other areas where the lizards tend to be either slower or run to cover where they can then be caught. Typical of what I mean is in the lower Gore Creek area of Lane Cove. Here the water skinks run and hide between boulders and are way too shy to be caught.

But just up the road at Warraroon Reserve, Lane Cove (Longueville), which is the next creek gully, the water skinks hide under easily movable logs and are a cinch to catch. But perhaps the "King" of reptiles in inner Sydney is the eastern water dragon (*Physignathus lesueurii*). These are magnificent beasts, with adult males getting up to nearly three feet and being distinguished from females by their deep red ventral surface. They too have taken on the heavily altered habitats of inner Sydney and come out on top.

These lizards are common along most watercourses in eastern Australia, their preferred habitat being rocky creek beds, waterfalls and similar gully set-ups. I still recall the first time I actually saw an eastern water dragon in the wild. It was as a child walking along Gore Creek in Lane Cove; I saw

a lizard sitting at the bottom of a clear pool, only a foot below the water surface. I simply stuck my hand in and grabbed the lizard by the neck, before carrying it home. I later found out that I'd actually heard these lizards some time earlier. You see as we had walked along the creek, we'd occasionally heard a loud "whack!" which was the sound of something splashing into the water. This sound was the water dragon jumping from a tree and into the water below. From there the lizard would either take sanctuary at the bottom of the creek's pool, where it could remain for some time, or it would swim away to some other point of safety.

Back in the 1970s these lizards were relatively uncommon in the Gore Creek area, but since then numbers have grown significantly to the point where they are now fairly common. Throughout the remnant bushland areas of inner Sydney this pattern has been repeated. In the area around Sydney's Taronga Park Zoo at Bradley's Head (Mosman), water dragons are present in massive numbers and many are tame enough to be approached and fed by humans.

Two other species that have also become more common in recent years in many inner areas are the three-toed skink (*Saiphos equalis*) and the southern leaf-tailed gecko (*Phyllurus platurus*).

The three-toed skink is one of the many smallish burrowing skinks with reduced limbs found in Australia, but the only kind found in Sydney's inner suburbs. It has long been common in the innermost suburbs of Milson's Point and Double Bay, but now it's becoming increasingly common in the middle ring of suburbs such as Epping, Lane Cove, Kogarah Bay and even Sans Souci.

Three-toed skinks (which are common in the gulleys in inner Sydney) are usually seen when lifting rocks and logs. They invariably point their snout down and thrash with their tail in an attempt to burrow away as fast as they can. If the substrate is porous, they go straight down and escape. If the substrate is hard, they either try to burrow and get nowhere or try to slither off. As a rule, these lizards are not excessively fast and are easy to capture. The females lay a few large eggs in late summer (around March/April) which hatch shortly after.

Something Else

For arachnophiles, the inner Sydney gulleys have lots of something else — Sydney funnel-web spiders (*Atrax robustus*). These big, black, hairy spiders are allegedly the world's deadliest. And in terms of their behavior it seems clear that they know this! As soon as they are agitated, they raise their foreparts and want to stick their fangs into the nearest threatening object. No one it seems has trouble milking them for their venom. They just can't wait to let it out! But they also make a great pet . . . just don't get bitten.

They are called "funnel-webs" because that's the shape of the webs they tend to build. Usually under a rock, their web is like a very thick funnel. So thick in fact, that not even the spiders themselves can walk through it. At Gore Creek throughout most of the year except the very coolest months,

you can expect to see from two to six within an hour of walking around lifting rocks in the gully. I know this, because I've done this countless times! If you see less than two an hour you are either blind, not looking, or something else is seriously wrong. And it doesn't even matter if you go out and catch as many as you can, because there'll always be more there next year! You see they breed, er, well like spiders and their population seems to be limited by the number of suitable rocks. And while it'd be theoretically possible to lift every liftable rock and capture all the spiders, you'd never be able to find those under rocks and other nesting sites, like pipes and concrete walls that are either inaccessible or too large to lift. Nor would you find the many that just happen to nest among leaves and other substrate in places that you'd never bother to look. Then too, you'd never find all those immature spiders wandering around looking for another decent rock to live under, and perhaps even hoping someone or something like you takes away a competing spider so that it can just move in under that very rock! And so, if you remove a spider from under a rock, it's highly likely that before long, yet another of its kind will set up shop there! That huge section of the local funnel-web population unable to find a decent place to live presumably end up getting eaten up by other creatures or even their own kind. So in other words, you can take as many spiders from their habitat as you want, but please just don't take their habitat (the rocks).

This gets us back to one of my key questions in terms of wildlife conservation. Why does the law go hard on the man who takes the snake from the forest, but fail to prosecute the man who takes the forest from the snake?

Returning to the funnel-webs, the spiders like to live in dark (shady) and damp places and as close to creeks and gulleys as they can get, subject to the following constraints. Their rock (the usual cover) must never flood underneath. You see they like to be in humid but dry places. It sounds like an oxymoron, but it's true. The rock must not be too tight a fit on the ground. Loose leaves, some sand and perhaps a bit of an air space are exactly the kind of thing they like. Also because they seem to be at the top of their local food pyramid, they tend to grab what are clearly the "best" rocks.

In the context of Gore Creek in particular this is obvious, because in the summer months you tend to find something under virtually every rock. This may be a lizard, scorpion, centipede or even an ant nest, but it's "something." And save for the ants which seem able to go where they want, it seems that the funnel-webs are usually found alone under the biggest and best rocks. That of course excludes the diurnal lizards that may inadvertently and temporarily shelter under the same highly sought after rocks.

If trying to capture the funnel-webs, you may find that they escape down a hole just after you lift the rock. To avoid this occurring you must sometimes be quick. To capture the spiders with ease, I merely blocked off the escape route with a stick and then with the same stick or another, flicked the now cornered spider into a small tub. I've done this many times as lots of my Victorian friends keep asking me to catch them funnel-webs for pets when I go to Sydney. And if you think

Gore Creek is a particularly good spot for funnel-webs then think again.

I know of other bushy gulleys in Sydney's inner suburbs where you can easily get 15 or more an hour and you could do that for six hours and not run out of rocks to lift!

For those who may want to keep them as pets, it's dead easy. I've had to learn about this more or less under duress. You see, in theory I'd rather be spending my time keeping snakes and lizards. And yes, I've ended up keeping specimens alive and well for months and years. As a cage, almost any smallish to medium container will do the trick. Best size is probably about 35 cm (14 in) long. Almost any substrate will do—rocks, dirt, leaves or any combination thereof. All they need is a bit of a moist corner for drinking purposes. Wet cotton in a drink bottle top is also good for this. They thrive at room temperature (about 20–25°C), and their cage should be large enough to allow you to incorporate an external heat source and temperature gradient. That in my view is the secret to success for these and other arachnids and scorpions.

That's why I say about 35 cm is a good size. Too small and it's hard to incorporate a decent temperature gradient to incorporate an area where it is impossible to overheat. Any larger and the cage becomes a waste of space. And because the spiders tend to attack and eat one another, it's also wise to keep them on their own.

Food is usually any nontoxic insect such as cockroaches, crickets or moths. They seem to eat them all! Some people feed their spiders small mice, but based on the cost and effort usually required to get the mice in the first instance, I recommend saving them for your snakes instead.

The Geckos

Southern leaf-tailed geckos are common throughout Sydney's inner suburbs, but as a rule are only found in remnant bushland in sandstone outcrops or occasionally around immediately adjacent houses. This is the only gecko species around Sydney that can tolerate urbanization. The other three from the Sydney region are Lesueur's gecko (*Oedura lesueurii*), the stone gecko (*Diplodactylus vittatus*) and the barking gecko (*Underwoodisaurus milii*), all of which are absent from the inner and most middle suburbs, but found in the sandstone habitats of the outer suburbs and national parks.

Lesueur's geckos are by far the most common of these three species in the Sydney region, with the other two species being relatively uncommon.

While I cannot claim to have studied leaf-tailed geckos in detail, I have made a few cursory observations of their habits in the inner suburbs. They prefer shady gulleys and live by choice under sandstone escarpment. During the day, they usually rest in an upside down position. Preferred habitat in the form of crevices under sandstone overhangs in gulleys is obviously limited and it appears that surplus animals are forced into nearby sites and marginal habitats. These include the lizards that are found in houses and walls in areas immediately adjacent to bushland.

Included in the marginal sites and habitats are the rock-on-rock situations which include those easily lifted by persons such as myself when looking for herps. Because these geckos often rest on the underside of the rock itself (as opposed to being on the ground) they are commonly missed by collectors of reptiles when looking for herps. However if one is mindful of this habit of the species, leaf-tailed geckos suddenly become a much more common species. In fact specimens seem to turn up all the time, including often some distance from preferred habitats.

While talking geckos in the Sydney area, in my drives along bush roads (such as West Head / Cottage Point Roads and Woronora Dam Road), I've been able to find all four species of Sydney gecko crossing these roads at night. However if you see one or two specimens a night (of all species), then you are doing well, meaning that the best way to find these animals is by day.

And the best time of year for the geckos is definitely the cooler months. Why? Because that's when they tend to hide under small exposed rocks so that they can get the warmth from the winter sunlight.

In fact winter is the best time of year to find most herps around Sydney, and it's because of that very same reason. The most notable exception of course are snakes like death adders (*Acanthophs antarcticus*) which are effectively invisible where they occur and are best found crossing bush roads in areas where they live.

Getting back to the southern leaf-tailed geckos, there is another trait which separates them from most other Sydney reptiles and that is their lack of heat tolerance. I recall as a kid, bringing them home and finding them to be the first to succumb to heat when placed in small plastic containers on hot days. After a few collecting losses I soon learned the importance of keeping this species away from excessive heat if transporting specimens. The same of course applies to all reptiles, but more so the leaf-tailed geckos.

Mites

Another anomaly noted with the southern leaf-tailed gecko is the fact that almost all specimens found in the wild seem to carry small red mites on their skin. These mites do not seem to harm the lizards in any way. Captives seem to lose these mites, even without specific treatment to get rid of them. Mites (of any species) on wild reptiles from Sydney are otherwise rare and offhand I cannot recall finding them on any, save for a few skinks and an adult diamond snake (*Morelia spilota*) I caught at the back of Kurringai High School, in North Turramurra.

I should tell you the full story about this later incident. It was a mild day in late spring, and I and a friend were in the bushland adjacent to "The Sphinx Trail," named for the replica stone Sphinx placed at one end of the track. This is inside the famous Kurringai Chase National Park. We found a medium sized creek and in it were large tadpoles from the giant burrowing frog, *Heleioporus australiacus*. Now this is one "kick-arse" frog. They are big, boofie, purple and brown

things and make great pets.

The two of us started fishing tadpoles out of a large pool, and after about fifteen minutes I saw a diamond python (*Morelia spilota*) coiled up under the creek bank overhang and half-submerged in the water. Needless to say the snake ended up at my home. And yes, it had mites on it. My guess is that was why it was bathing. The snake was in unusually poor condition and at a guess may well have been a prior captive. This was particularly likely, bearing in mind the general condition of the snake and the proximity of it to a large high school.

It's also worth noting that this was the only poor condition diamond python I'd ever seen from the bush around Sydney and over the years I've seen hundreds!

While talking mites and their occurrence on reptiles in the wild, I should also make a few other comments. Here in Australia it's generally thought that the "reptile mite" is an

exotic species and not native to Australia, even though there is little if any evidence to support this theory. The basis for the theory is that mites are a common pest in captive collections, but rare in wild animals. However in parts of Australia, including the western suburbs of Melbourne and the Mornington Peninsula (southeast of Melbourne), mites are common on wild herps. By and large, these reptiles seem to cope with these infestations and survive and breed. Mite infestations seem greatest in areas with highest population densities of herps and also peak at the end of winter, which presumably coincides with the period of least movement by the reptiles.

Ticks on the other hand are another matter. I've seen them on almost every species of larger reptile at one stage or other, including most of the snakes. The biggest infestations I've seen have been on lace monitors (*Varanus varius*), including a few specimens from northwest New South Wales which sported hundreds per lizard!

To be continued

Literature Cited

- Cogger, H. G. 2000. Reptiles and amphibians of Australia, Revised edition. Sydney: Reed Publishing.
- Cogger, H. G., E. E. Cameron and H. M. Cogger. 1983. Zoological catalogue of Australia (1) Amphibia and Reptilia. Canberra, ACT, Australia: Australian Government Publishing Service.
- Tyler, M. J. 1992. Encyclopedia of Australian animals—Frogs. Sydney: Angus and Robertson.
- Wells, R. W., and C. R. Wellington. 1983. A synopsis of the class Reptilia in Australia. Australian J. Herpetology 1(3-4):73-129.
- Wells, R. W., and C. R. Wellington. 1985. A classification of the Amphibia and Reptilia of Australia. Australian J. Herpetology, Supplementary Series, (1):1-61.
- Worrell, E. 1970. Reptiles of Australia. Sydney: Angus and Robertson.

HerPET-POURRI

by Ellin Beltz

Letters . . .

March 7, 2005 “When can we order your soon-coming frog book? Here's a clipping. . . . The reporter called me. . . . I told her since there's no direct flights from Guam to Kona it probably wasn't a brown tree snake. Paul Breese”

Dear Paul: Your wish is my command. Click here — <http://www.fireflybooks.com/advance/bookdetail.asp?id=8574>

April 28, 2005 “Herp of the month was turtles or tortoises. Alicia Singer won with her painted turtle, which incidentally is probably our state reptile. Frog power. MaryBeth Trilling p.s. What is a snake's favorite subject in school? Hissss-tory”

Bad pun. . . . Wish I'd said it first!

Allen Salzberg was the first to grace my mailbox with this gem: “Sex shells: Turtle lovers Team Up with Playboy Model to Save Turtles. . . . Conservationists are teaming up with a Playboy model for a racy new campaign aimed at stopping a Mexican tradition: swallowing raw sea turtle eggs as a sexual aid. ‘My man doesn't need to eat turtle eggs,’ says one magazine ad, as Argentine model Dorismar unbuttons her shirt for the camera. Behind her, two baby sea turtles scoot along a beach.” [April 18, 2005, HerpDigest Special]

Save a few, kill the rest

- A creative deal between a rancher, Orange County and developers may net the county more than \$12 million dollars, just for saving a 1,280 acre pristine piece of land from development. The process is called “mitigation banking” and permits developers to help pay for the land set aside. In return, the developers can rip the heck out of their own land and save nothing. Voters are paying for the initial purchases, but development fees can return hundreds of millions of dollars in builders' fees. [Orlando, Florida *Sun-Sentinel*, January 17, 2005, from Bill Burnett]

- “Gopher tortoises decline as builders pay to kill them,” cried a *Sun-Sentinel* headline. The story is, as it has been for years, that developers move some and can't find others, so pay the state fees which are used to set aside habitat with tortoises in the hopes of saving the species. However, this article has bias. Read the following carefully, “Few dispute, though, that tens of thousands of tortoises have perished. . . . ‘They die slowly of starvation and suffocation,’ said . . . a Winter Park environmental activist and devotee of tortoises. To ecologists, the horror goes beyond individual tortoises . . . ,” it includes all the other species trapped in the burrows with the tortoises including burrowing owls and indigo snakes. Nowhere is the source of the activists' data provided. The whole piece is full of setups, little pieces out of context strung together for an emotional whole. Unfortunately, it wasn't on the op-ed page, it was presented as news. [February 6, 2005, from Bill Burnett] The problem, of course is that people are insatiable for flat, dry land on which to build—a habitat choice tortoises made millions of years ago before any pesky little primates rose to self-appointed supremacy.

- The decline in the number of loggerhead turtle nests on Florida beaches continues rapidly. In 1998, there were 18,000 nests, in 2004 only 8,000. Experts discount the folk wisdom that last year's hurricanes are to blame, citing instead the increase in long-line fisheries in the Azores Islands, owned by Portugal. Long-lines have thousands of baited hooks set to catch fish. Young turtles reportedly get hooked straight through their throats and are unable to escape. The fishermen in the Azores collect data; most of their turtle by-catch is 7- to 12-year-old animals. [January 22, 2005: *Miami Herald*, from Alan Rigerman; Orlando, Florida *Sun-Sentinel*, from Bill Burnett]

Don't believe everything you've read

“A professional snake handler has been found dead at his South Australian home. . . . A police spokesman said this morning: ‘The man kept a snake in the house but at this time there is no evidence to show that the snake was involved in the man's death. . . .’ [He] is not believed to have had any pre-existing medical conditions, but it is understood he had consumed a large amount of alcohol before his death. . . . Last year . . . [he] beat about 150 applicants for the position of exotic snake curator at a Tanunda-based venom supplies business . . . involved in milking hundreds of venomous snakes for the production of anti-venin.” [News.com.au May 2, 2005, from MaryBeth Trilling and Raymond Hoser]

I'd lose my appetite, too

Amylin Pharmaceuticals of San Diego, California, won government approval to bring to market a potential blockbuster diabetes drug derived Gila monster saliva. Another drug from the same source may prevent the onset of diabetes and the FDA is considering that one as well. Gila monster spit mimics a hormone which helps the body process blood sugar after a meal. The drugs being marketed are synthetic versions of the original. [*Union-Tribune*, April 30, 2005, from MaryBeth Trilling]

Busted!

Sacramento Business Journal April 22, 2005, reports: “After years of improperly filling wetlands at the airport, county officials now are competing with commercial developers to acquire land as habitat for Giant Garter Snakes (*Thamnophis gigas*). In the end, the snafu could wind up costing the airport system more than \$11 million, with some of the cost passed along to the airlines that pay landing fees here. . . . The airport [is trying] to buy 300 undeveloped acres in northern Sacramento and southern Sutter Counties, land that other eager buyers are trying to snap up to mitigate for construction elsewhere. Federal wildlife officials ordered the buying binge as punishment for the airport's years of plowing dirt, without authorization, over wetlands that had been home to the snakes. Giant Garter Snakes are listed as threatened and protected by the U.S. Endangered Species Act. ‘It was illegal and they got caught,’ said environmental attorney Jim Pacht, who three years ago was among a group who discovered the filled-in

wetlands and notified regulators. “It was clearly wrong.”
[from Bradford Norman]

Exploded!

Literally dozens of copies of the “toads exploding by the thousands in northern European ponds” arrived in my inbox this month! Contributors included a who’s who of CHS column contributors: James Harding, J. N. Stuart, Joe Collins, MaryBeth Trilling, Wes von Papineau, Bradford Norman, Ken Mierzwa, Eloise Beltz-Decker, Helmut Viss, Ms. G. E. Chow, Allen Salzberg, and quite a few others whom I don’t think are CHS members! Anyway, as you’ve probably already heard, dozens of toad were discovered puffed up and bloated in German and Danish ponds. Much media frou-frou resulted; apparently slow news days in Europe bring out the networks just like they do on this side of the Atlantic. Ultimately, “one German scientist studying the splattered amphibian remains now has a theory: Hungry crows may be pecking out their livers.” The Associated Press continues, “So far, more than 1,000 toad corpses have been found at a pond in Hamburg and in Denmark. But the pond water in Hamburg has been tested, and its quality is no better or worse than elsewhere in the city. The remains have been checked for a virus or bacteria, but none has been found. Based on the wounds, [the scientist] said, it appears that a bird pecks into the toad with its beak between the amphibian’s chest and abdominal cavity, and the toad puffs itself up as a natural defense mechanism. But, because the liver is missing and there’s a hole in the toad’s body, the blood vessels and lungs burst and the other organs ooze out, he said. As gruesome as it sounds, it isn’t actually that unusual, he said. . . . [In any case] local officials in Hamburg were advising residents to stay away from the pond dubbed by German tabloids, ‘the death pool.’” [Associated Press, April 28, 2005, in one form or another from all of the above]

Re-enacted!

Long-term contributor and veterinarian Laurence Reed was featured on the Discovery Health Channel in April. As reported by the Porter, Indiana *Post-Tribune* [April 24, 2005]: Reed was bitten on the thumb by a 5-foot western diamond-back rattlesnake in March 2004 at his Westchester Animal Clinic. Reed was changing the snake’s water dish in its cage. . . . A film crew completed a re-enactment in January with several of the people involved in saving Reed’s life. After the bite, Reed went to a local medical clinic, but it didn’t have the snake antivenom. Porter hospital didn’t either. Neither did Brookfield Zoo in Chicago. High, gusty winds prevented air travel, so he was rushed by ambulance to Indianapolis’ Clarion Health Methodist Hospital. By then, the thumb was swelling and Reed was having trouble breathing. During the 150-mile trip, they changed police along the way. Reed received an antivenom injection in Lafayette. Reed only had about 30 minutes left before any medication would have been useless. After the (antivenom) injection, he was able to breathe again. [from MaryBeth Trilling]

Revealed!

“A group of crocodiles living in a remote pond in the Sahara Desert may be the last members of a once-abundant population to survive since the region’s climate became arid about 9,000 years ago . . . in a small Mauritania pond near the Senegalese border. The pond is only about 330 square feet in size and is 125 miles from the nearest river . . . [and] contains large amounts of micro-organisms. . . ., plants and the fish the crocodiles feed on. [Scientists] say the delicate ecosystem had remained stable despite its small size for millennia, and describe it as a ‘unique ecological phenomenon.’” [Earthweek, *The Honolulu Advertiser*, April 17, 2005, from Ms. G. E. Chow]

The yin and the yang in news

- Another story of which I received many copies was of a turtle with shell markings reputed to look like Satan. Apparently the turtle was the only survivor of a fire in their pet shop. When they got him out of the ruins, his shell was marked with the apparent face. They are selling DVDs of the turtle’s markings on eBay and offering it for sale privately. [*The Times*, Frankfort, Indiana, March 18, 2005, from MaryBeth Trilling; *The South Bend Indiana Tribune*, March, 19, 2005, from Garrett Kazmierski; CNN.com, March 21, 2005, from Bill Burnett]
- To prove there are two sides to every story and that nature has exceptions to everything, I offer this from the *Daily Herald* [April 23, 2005]: “You’ve seen Our Lady of the Underpass. Now meet Our Lady of the Underbelly. A miracle of reptilian proportions may be occurring in Glendale Heights, where a pet turtle’s markings look eerily similar to the Virgin Mary. . . . [The owner] didn’t think much about the spot until a few weeks ago when people swore they saw a Marian apparition on the Kennedy Expressway. The faithful and the curious have flocked to the image, a salt stain located on a concrete wall near Fullerton Avenue in Chicago. Dubbed Our Lady of the Underpass, the spot’s resemblance to Mary is, at best, debatable. The suburban turtle, named Red Belly, bears a much stronger likeness to the Blessed Virgin—even if his owners don’t believe Mother Mary has come to comfort them. “I’m Catholic,” [the owner] said, laughing. “But not that Catholic.” Convinced Red Belly looked holier than the salt stain, the . . . family began showing his tummy to neighbors. Their shell-shocked reactions convinced them they weren’t the only ones who saw deus ex tortoise.”

Thanks to everyone who contributed for this column. You can contribute too. I have a little stack of newspaper all flattened out and ready to type in for next month’s column. Other than that, it’s up to you! Send whole pages of newspapers, magazines and other print sources to: Ellin Beltz, POB 1125, Ferndale, CA 95536. Email me (ebeltz@ebeltz.net) for info on how to become an electronic contributor!

Unofficial Minutes of the CHS Board Meeting, April 15, 2005

Lori King called the meeting to order at 7:35 P.M. Board members Betsy Davis and Steve Spitzer were absent.

Officers' Reports

Recording Secretary: Melanie Aspan read the minutes of the March 18 board meeting. Corrections were made and the minutes were accepted.

Treasurer: Jim Hoffman presented the March financial statements. He noted that neither all ReptileFest expenses nor income are included on these statements.

Vice-president: Linda Malawy announced Charlie Painter as the speaker at the April general meeting as well as Dr. Emily Taylor as the speaker at the May general meeting and Dr. Philip Cochran as the speaker at the June meeting. The Show-and-Tell meeting will take place in July this year.

Sergeant-at-arms: Ron Humbert announced the attendee count for the March general meeting at 62.

Committee Reports

Shows: Steve Sullivan extended a message of thanks to everyone who participated in this year's ReptileFest. Steve also announced the winners of the exhibitor awards. The First Time Exhibitor Award went to the Illinois State Herpetological Society. The People's Choice Award went to the Tortoise Pit. The Exhibitors' Choice Award went to Rich Crowley. The dates for the 2006 ReptileFest were decided on as April 8 & 9. Steve also mentioned that there will be a wrap-up meeting for this year's 'Fest but the date has not yet been decided. Jenny Vollman offered the upcoming dates for Park District shows as: April 23 & 24 at Humboldt Park; May 14 at River Park and May 21 at Jackson Park. Jenny reminded everyone about the Notebaert weekend on April 23 & 24 as well as a request from the Notebaert for our presence during the day on Thursday, April 21. Jenny also mentioned this year's Sisters for Science on April 22 and Dinner with a Dino on May 10.

General Meetings: The Herp of the Month at the April general meeting will be Turtles/Tortoises. Deb Krohn will present the Illinois Herp presentation on Chorus Frogs. Ron Humbert made a motion to reimburse Jack Schoenfelder \$309 in order to buy the supply of the new CHS logo polo shirts which were produced for this year's ReptileFest. The motion was seconded by Jenny Vollman and was passed with all in favor.

Old Business

State Reptile/Amphibian: Steve Sullivan revealed that Illinois Senator Christine Rodogno will be sponsoring the State Reptile/Amphibian Bill in the senate, which is expected to vote on the matter on April 20.

Midwestfrogs.com: Dave McGowan confirmed his intention to apply for a grant from Patagonia.

Adoptions Restricted Fund: The Board again discussed the possibility of moving some of the funds in this account into

other accounts at the discretion of the Board and the Adoptions Committee Chairperson. It was agreed that Linda Malawy would bring to the next Board Meeting an accounting of the funds collected using the new form which notifies the individual making the donation that this could be done with the funds being donated.

New Business:

Herp Supply Business Offer: Jack Schoenfelder presented an offer from Ted Pietz, the past owner of the now-out-of-business Bush Herpetological Supply. If accepted, this would put the CHS in possession of a good deal of the remaining inventory — itemized on a list offered for perusal to the board members — for the cost of shipping these items to an appropriate location. These items would then be sold or distributed at the discretion of the Board. Mike Dloogatch moved to accept Ted Pietz's kind offer. Jim Hoffman seconded the motion and it was passed with all in favor.

The meeting was adjourned at 10:07 P.M.

Respectfully submitted by Melanie Aspan, Recording Secretary.



**THE
GOURMET
RODENT,
INC.™**

VISA MASTERCARD Discover

RATS AND MICE

Bill & Marcia Brant
6115 SW 137th Avenue
Archer, FL 32618
(352) 495-9024
FAX (352) 495-9781
e-mail: GrmtRodent@aol.com

© All Rights Reserved

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutritionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, \$.17 each; fuzzies, \$.24 each; hoppers, \$.30 each; weanling, \$.42; adult, \$.48. Rats: starting with pinks at \$.45 each, to XL at \$1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. PO Box 85, Alpine TX 79831. Call **toll-free** at (800) 720-0076 or visit our website: < <http://www.themousefactory.com>> .

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice available: small newborn pinks up to jumbo adults. Prices start at \$25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: **New book**—*Snakes of Costa Rica* by Alejandro Solórzano, in English/Spanish, 842 color photos, 21 figs. & tables, distribution maps for all species, a must for anyone with an interest in tropical snakes, \$60 + \$5 shipping & handling. Also available, *Biology of the Vipers* (2002, Schuett et al., eds.) Order from Eagle Mountain Publishing, LC, 7705 N. Wyatt Earp Ave., Eagle Mountain UT 84043, (801) 789-4149 tel., (801) 789-4150 fax. E-mail: empub@msn.com. For additional information see www.eaglemountainpublishing.com

For sale: books. *Eyelids of Morning—The Mingled Destinies of Crocodiles and Men* by Alistair Graham and Peter Beard, 1990 (1973), 9×12", 260 pp., over 200 b&w and color photos—some macabre, details research on the Nile crocodile's natural history and relationships with the Turkana people of Lake Rudolf, softbound, \$24; *Australia's North* by Stanley and Kay Breeden, 10×12", 208 pp., many excellent color and b&w photos of herps such as the frill-necked lizard, olive python, monitors, geckos and others, details the natural history of the Top End of the Northern Territory (including Kakadu), DJ, hardbound, \$35; *Natural History of Snakes* by H. W. Parker, 1965, 95 pp., 6 b&w plates, 18 figs., 4 tables, British Museum (Natural History) publication, technical treatment, author and title neatly lettered on spine, softbound, \$8; *Riesenschlangen aus Aller Welt* by Zdenek Vogel, 1973, 102 pp., 60 b&w and 2 color plates, natural history and husbandry info about boas and pythons, in German, softbound, \$26. All books in excellent condition except as noted. Postage \$2.50 for orders under \$25, free for orders \$25 or more. William R. Turner, 7395 S. Downing Circle W., Littleton, CO 80122 Tel. (303) 795-5128; email: toursbyturner@aol.com.

For sale: Two 1-foot Neodesha cage sets, each set includes matching hide box and water bowl, \$25 per set. Jim, (847) 534-4980.

For sale: c.b. young (4–5") leopard tortoises, eating well, will deliver in Chicago area, \$150 each. Bill, (708) 799-6697.

For sale: well started captive-hatched Sri Lankan and mainland Indian star tortoises, photos available on request. Most Sri Lankans are 2004 hatchlings. \$500 each for Sri Lankans, \$300 each for mainlands plus shipping. Limited numbers of pancake tortoise hatchlings now available, \$350 each. E-mail KKranz1@wi.rr.com or call (262) 654-6303. [WI]

For sale: c.b. '03 yellow anacondas, aggressive feeders, perfect health, about 2' long, \$100 each; also c.b. '04 reticulated pythons; beautiful hatchlings already feeding on adult mice. These guys are tiger siblings and are available for \$100/each as well. Personal checks, money orders and Paypal accepted. Out of state shipping available. If you have questions or would like to purchase an animal call Mark Petros, (847) 836-9426 or E-mail ballpython777@yahoo.com.

Herp Tours: Why pay more? Travel with the International Fauna Society, a 501 (c)3 not-for-profit organization, and experience the Costa Rican rainforest! Stay at the beautiful Esquinas Rainforest Lodge in the untouched herpetological paradise that is Piedras Blancas National Park. Meet new friends, relax in the naturally-filtered swimming pool or in the lush, fauna-filled tropical garden. Discounts for IFS and Chicago Herp Society members. For details, visit The International Fauna Society website at www.faunasociety.org or E-mail: info@faunasociety.org.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: < <http://www.bluechameleon.org>> , E-mail: bill@bluechameleon.org, or call (239) 728-2390.

Herp tours: The beautiful Amazon! Costa Rica from Atlantic to Pacific! Esquinas Rainforest Lodge, the Osa Peninsula, Santa Rosa National Park, and a host of other great places to find herps and relax. Remember, you get what you pay for, so go with the best! GreenTracks, Inc. offers the finest from wildlife tours to adventure travel, led by internationally acclaimed herpers and naturalists. Visit our website < <http://www.greentracks.com>> or call (800) 892-1035, e-mail: info@greentracks.com

Virtual Museum of Natural History at www.curator.org: Free quality information on animals—emphasis on herps—plus expedition reports, book reviews and links to solid information. Always open, always free.

Wanted: Volunteer to help with midwestfrogs.com web site by transcribing videotaped interviews with frog biologists (from VHS). Dave McGowan, dmcgowan3@earthlink.net.

Wanted: Female ball pythons, adults preferred but smaller animals also considered. I am a professional breeder specializing in ball pythons and I can assure you that your animal will be provided with excellent care and optimal living conditions. Mark Petros, (847) 836-9426; ballpython777@yahoo.com.

Wanted: I'm looking for my soulmate. I want to settle down to a family before it is too late. But I have this problem. . . . When we get into hobbies and interests: old popular records, jazz and show tunes, and antique electronics are fine, but when I mention turtles, "What, are you crazy?" So maybe this is a better place to look. Please don't try to separate me from my turtles—at least not most of them. If interested, please drop a line to Ellis Jones, 1000 Dell, Northbrook IL 60062, telling a bit about yourself and giving a phone number.

Line ads in this publication are run free for CHS members—\$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: MADadder0@aol.com.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, May 25, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Dr. Emily N. Taylor**, of Arizona State University, will speak to the question, “Why Are Male Rattlesnakes Larger than Females?” Most rattlesnake species show sexual size dimorphism, with males being larger than females. Dr. Taylor will describe a series of experiments she conducted to determine the mechanism responsible for this dimorphism, and will discuss its evolutionary and ecological significance.

Dr. Philip A. Cochran, Professor of Biology at Saint Mary’s University in Winona, Minnesota, will speak at the June 29 meeting on “Ecology of Wood Turtles in Northeast Wisconsin and Their Potential Role as Seed Dispersers.”

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago’s newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the June 17 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot to the left and behind the building.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: <http://www.geocities.com/~chicagoturtle>.

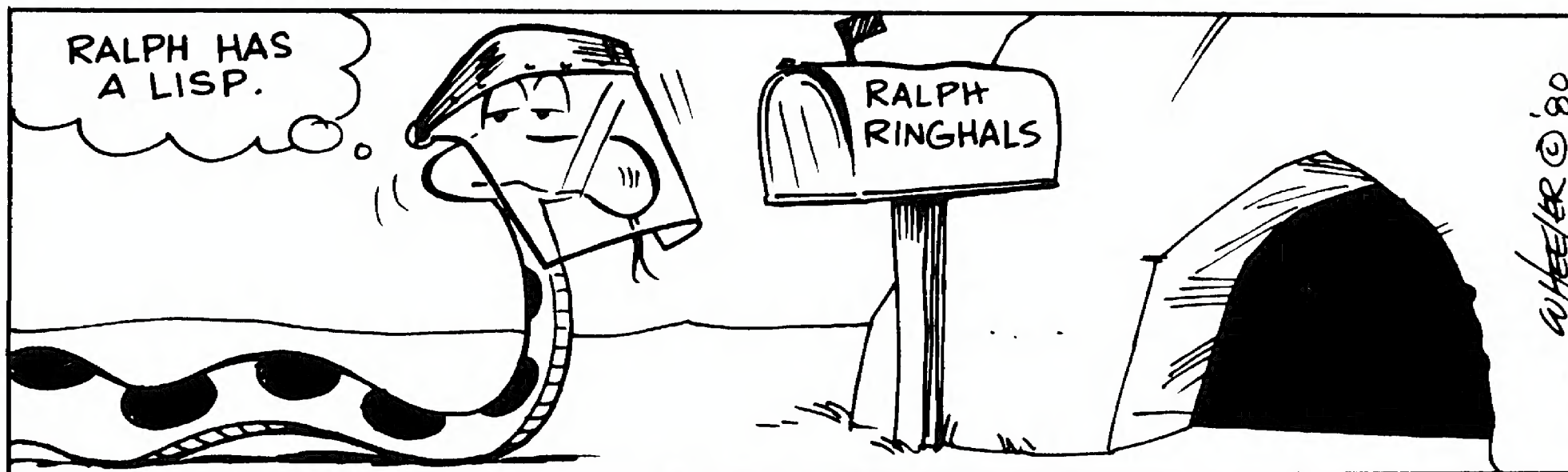
AND THE WINNERS ARE...

Thanks to everyone who exhibited at ReptileFest 2005. We had over 70 displays this year and, thanks to ZooMed, we were able to offer awards in three categories to some of the best exhibits. ZooMed donated prizes worth over \$100 each for winners of the best first-time exhibitor, people’s choice exhibit, and exhibitors’ choice exhibit. Of the 11 first-time exhibitors, the Illinois State Herpetological Society from Illinois State University won best first-time exhibit. *Reptiles* Magazine also generously donated a year’s subscription to three runners-up: Bring Back the Blanding’s Turtle by Jack McCrae, the mudpuppy display by Nancy Bigelow’s class, and Alicia Singer and her pet herps. The People’s Choice Award went to the Tortoise Pit; thanks to everyone who contributed to this popular exhibit including Steve and Jenny Spitzer and John Bailey. Finally, the prestigious Exhibitors’ Choice award went to Rich Crowley’s “Tools of the Trade” and “How Do You Like Your Eggs” exhibits. Prizes will be delivered to these winners shortly.

HERP OF THE MONTH

Each monthly meeting will showcase a different herp. CHS members are urged to bring one specimen of the “Herp of the Month” to be judged against the entries from other CHS members. Prizes will be awarded to the top three winners as follows: 1st place—6 raffle tickets at next meeting; 2nd place—4 raffle tickets at next meeting; 3rd place—2 raffle tickets at next meeting. For May “Any Frog or Toad” will be the Herp of the Month.

THE ADVENTURES OF SPOT



Periodicals Postage
Paid at Chicago IL

CHICAGO HERPETOLOGICAL SOCIETY

Affiliated with the Chicago Academy of Sciences

2430 North Cannon Drive • Chicago, Illinois 60614
